CLAIMS:

SUB A'

1. A method for use in a transmitter, the method comprising the steps of:

processing N program channels into M clusters of program channels, such that at least k programs channels are grouped in each cluster, where $k > 1$; $M > 1$, and $(M)(k) \leq N$; and

transmitting a transmission signal representing the M clusters and including cluster synchronization information for each of the M clusters such that the cluster synchronization information for each cluster is identical.

2. The method of claim 1, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.

3. The method of claim 2 further comprising the step of using an eight-stage linear feedback shift register for generating the maximal length PN sequence prior to the transmitting step.

4. A method for use in a receiver, the method comprising the steps of:

receiving a signal representing (a) M clusters of program channels, such that at least k programs channels are grouped in each cluster, where $k > 1$; $M > 1$, and (b) cluster synchronization information for each cluster of the M clusters, wherein the cluster synchronization information for each cluster of the M clusters is identical; and

using the received cluster synchronization information for identifying individual ones of the M clusters of program channels.

5. The method of claim 4, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.

6. The method of claim 4, wherein the using step includes the steps of:

correlating cluster synchronization information for each cluster for providing correlation data for each cluster; and

comparing the correlation data for each cluster for identifying the individual ones

of the *M* cluster of program channels.

7. The method of claim 6, wherein the comparing step compares phases of the correlation data for each cluster for identifying individual ones of the *M* clusters of program channels.

8. The method of claim 6 further comprising the step of combining the correlation data for each cluster for providing a cluster synchronization signal.

9. A method for use in a receiver, the method comprising the steps of:

demodulating a signal to provide a baseband signal representing a transmission frame comprising clusters of data and, for at least two of the clusters, further comprising cluster-specific synchronization data and wherein values of the cluster-specific synchronization data is the same for the at least two of the clusters; and

using the cluster specific synchronization data to identify individual ones of the clusters of data.

10. The method of claim 9, wherein the value of the cluster-specific synchronization data, which is the same for the at least two of the clusters, is represented by a maximal length PN (pseudo-random number) sequence.

11. The method of claim 9, wherein the using step includes the steps of:

correlating the cluster-specific synchronization data for the at least two clusters for providing correlation data for the at least two clusters; and

comparing the correlation data for the at least two clusters for identifying the individual ones of the clusters of data.

12. The method of claim 11, wherein the comparing step compares phases of the correlation data for the at least two clusters for identifying individual ones of the clusters of data.

13. The method of claim 11, further comprising the step of combining the correlation data for the at least two clusters for providing a cluster synchronization signal.

14. Transmitter apparatus comprising::

a transmission frame assembler for forming a signal representing M clusters of program channels, such that at least k programs channels are grouped in each cluster, where $k > 1$; $M > 1$, and further representing cluster synchronization information for each of the M clusters such that the cluster synchronization information for each cluster is identical; and

transmitting the signal.

15. The apparatus of claim 14, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.

16. The apparatus of claim 15 further comprising an eight-stage linear feedback shift register for generating the maximal length PN sequence.

17. A receiver comprising:

means for receiving a signal representing (a) M clusters of program channels, such that at least k programs channels are grouped in each cluster, where $k > 1$; $M > 1$, and (b) cluster synchronization information for each cluster of the M clusters, wherein the cluster synchronization information for each cluster of the M clusters is identical; and

means for using the received cluster synchronization information for identifying individual ones of the M clusters of program channels.

18. The receiver of claim 17, wherein the identical cluster synchronization information is represented by a maximal length PN (pseudo-random number) sequence.

19. The receiver of claim 17, wherein the means for using further comprises:

means for correlating cluster synchronization information for each cluster for providing correlation data for each cluster; and

means for comparing the correlation data for each cluster for identifying the individual ones of the M cluster of program channels.

20. The receiver of claim 19, wherein the means for comparing compares phases

of the correlation data for each cluster for identifying individual ones of the *M* clusters of program channels.

21. The receiver of claim 17 further comprising a means for combining the correlation data for each cluster for providing a cluster synchronization signal.

22. A receiver comprising:

a demodulator, responsive to a signal, that provides a baseband signal representing a transmission frame comprising clusters of data and, for at least two of the clusters, further comprising cluster-specific synchronization data and wherein values of the cluster-specific synchronization data is the same for the at least two of the clusters; and

a detector, responsive to the cluster specific synchronization data, for identifying individual ones of the clusters of data.

23. The receiver of claim 22, wherein the value of the cluster-specific synchronization data, which is the same for the at least two of the clusters, is represented by a maximal length PN (pseudo-random number) sequence.

24. The receiver of claim 22 further comprising a plurality of correlators for correlating the cluster-specific synchronization data for the at least two clusters for providing correlation data for the at least two clusters; and wherein the detector compares the correlation data for the at least two clusters for identifying the individual ones of the clusters of data.

25. The receiver of claim 24, wherein the detector compares phases of the correlation data for the at least two clusters for identifying individual ones of the clusters of data.

26. The receiver of claim 24 further comprising a combiner for combining the correlation data for the at least two clusters for providing a cluster synchronization signal.